

Date: Wednesday, 10/06/2009 10:43:07 AM
 User: Julie Dawson

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : DRLLING DETAIL, 205 SKIDTUBE
Job Number : 48455	
Estimate Number : 11808	
P.O. Number :	Part Number : D25801
This Issue : 10/06/2009 S.O. No. :	Drawing Number : D2580 REV D
Prsht Rev. : NC	Project Number : N/A
First Issue : / / Type : SKIDTUBES	Drawing Revision : D
Previous Run :	Material :
Written By :	Due Date : 15/06/2009 Qty: 6 Um: Each
Checked & Approved By : <u>Jul 09-06-10</u>	
Comment : Est B 01.11.08 Revised Step 9, 10, 12, and 13 SM Est C 09.05.26 re-format EC verified by: DD	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	D25001190	Ext'n -I' Beam Tube 4"
-----	-----------	------------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 6.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	1 D2500-1-190	Extrusion	B 48468 ⑥ K 9-6-10

2.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
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Comment: HAND FINISHING RESOURCE #1

1- Inspect mat'l D2500-1-190 for damage.

2- Chemical Conversion Coat as per QSI 005 4.1

) K 9-6-10 ⑥

3.0	D2596	Web, 205 Skidtube
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 6.0000 Each(s)

205 Web

Pick:

Qty	Part Number	Description	Batch
1	D2596	I beam	B 48467 BE 09-06-11

4.0	SKIDTUBES 1	SKIDTUBESS RESOURCE 1
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Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes using drill jig DT 8149 (Do not use cutting fluid)

2-Open holes to 0.500" as per Dwg D2580 without cutting fluid

) K 9-6-11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 10/06/2009 10:43:07 AM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: DRLLING DETAIL, 205 SKIDTUBE

Job Number: 48455

Part Number: D25801

Job Number:



Seq. #:

Machine Or Operation:

Description:

3-Countersink holes as per Dwg D2580 without cutting fluid

4-Deburr and blow out all chips from inside of tube

5-Bond web in place per QSI 015.

Pick:

Qty Part Number Description Batch
A/R Sikaflex-291 *M111557*
Sikaflex expire date: *10-01-2031*

MA-6-11
BE 09-06-11

5.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



(6)

Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

BE 09-06-11

6.0

QC5

INSPECT WORK TO CURRENT STEP



(6)

Comment: INSPECT WORK TO CURRENT STEP

9-6-12

7.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

skid tube cell

DP 9-6-12

(6)

8.0

QC21

FINAL INSPECTION/W/O RELEASE



09/06/12

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



mf
09-06-12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN #	DRAWN BY RH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

RELEASED
07.06.28 #

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

SHOP COPY

RETURN TO

ENGINEERING

UNCONTROLLED COPY

SUBJECT TO AMENDMENT

WITHOUT NOTICE

WORK ORDER

NO. 48455

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

RELEASED
07-06-28

Diagram illustrating the grinding locations for the D2576-3 Step. The diagram shows a cross-section of the step with the following labels:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- LOCATION RIDGE ON UNDERSIDE OF D2576
- 1/4

Diagram illustrating the assembly of a circular component, likely a cap or washer, showing the following parts and dimensions:

- DRILL PRIOR TO D2855 CAP INSTALLATION (2 PLACES)
- AN3-SA BOLT (1)
- AN960J10L WASHER (1)
- D2855 CAP
- SEAL WITH SIKAFLEX-241/-291
- 0.40

D2579 SPACER

WEB (REF)

130 (REF)
0 PLACES

AFTER PERFOM

1. CHA
2. INS
3. WE
4. C'B

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

37.50
DISTANCE TO AFT END
OF D2596 WEB

3
7

1.750 1.750

#508 (TYP.)
(40 PLACES)

REFER TO DETAIL A

8.750
17.375
26.000
34.188

57.313 (REF)
7 EQUAL SPACES
8.188 PITCH

38.0 91.500

190.0
(D2500-1)

[illegible]

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 DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D2580	REV. D SHEET 2 OF 3
TITLE 205 SKIDTUBE ASSEMBLY	SCALE 1:24

RELEASED
07 Dec 78

Diagram illustrating the grinding locations for the D2576-3 step. The diagram shows a cross-section of the step with the following labels:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- LOCATION RIDGE ON UNDERSIDE OF D2576
- $\frac{1}{4}$

[illegible]

D2579 SPACER

WEB (REF)

130 (REF)
0 PLACES

AFTER PERFO

1. CHA
2. INS
3. WEI
4. C'B

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO #0.437 X 1.00 DEEP

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

37.50
DISTANCE TO AFT END
OF D2598 WEB

3
7

1.750 1.750

#0.508 (TYP.)
(40 PLACES)

REFER TO DETAIL E

REFER TO DETAIL A

8.750 17.375 26.000 34.188

57.313 (REF)
7 EQUAL SPACES
8.188 PITCH

38.0 91.500 190.0
(D2500-1)

(MAKE FROM D2580-1 DRILLING DETAIL)

Technical drawing of a curved pipe section. The drawing shows a horizontal pipe with a curved end. Key dimensions and callouts include:

- Overall length: 51.340
- Distance from left end to first hole: 5.985
- Distance between first and second hole: 5.338 (REF)
- Distance from second hole to third hole: 3.630 (REF)
- Distance from third hole to fourth hole: 39.580
- Distance from fourth hole to end: 5.915
- Hole diameter: $\varnothing 0.508$ (8 PLACES)
- End hole diameter: $\varnothing 0.640$
- End hole offset: 20.0
- End hole vertical offset: 11.0
- Distance between hole and tangent point (left): 1.0
- Distance between hole and tangent point (right): 1.0
- End hole vertical offset (right): 32.0 \pm 1.0
- Callout 4: Points to the end of the pipe and the hole diameter $\varnothing 0.640$.

V-100 VHS ASSEMBLY DETAIL

WELD AS PER DETAIL F

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

0.5

1.5

1.5

H

NO C'BORE NO PLUG

REFER TO DETAIL G

NO C'BORE NO PLUG

8

1.5

1.5

1.5

P

H

D3566-1

D3566-5

D3566-1

D3566-13

D3564-11

D3564-5

D3564-9

D3564-13

AN3C4A BOLT (1)

AN960C10L WASHER (1)

(50 PLACES)

DESIGN

DRAWN BY

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HAWKESBURY, ONTARIO, CANADA

DRAWING NO.	D2580
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TITLE	205 SKIDTUBE ASSEMBLY
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REV. D
SHEET 3 OF 3
SCALE
1:24